

## CLAIMS

1. A method for determining locations of service instances for optimising distribution of a service in a network, from a source to a plurality of clients each having predetermined requirements, wherein said network can be modelled by means of a graph, said method being characterised in that it comprises steps of:

  - placing (40) a service instance in each leaf in said graph; and
  - starting from the leaves, for each service instance:
  - checking (42) whether the service instance when placed in a vertex on the next higher level can fulfil the requirements of all clients to be served by said service instance; and
  - moving (43) or not said service instance one level higher, depending on the result of the checking step (42).
2. A method according to claim 1, characterised in that it further comprises the steps of determining (44) that at least two service instances meet in said vertex and combining said service instances.
3. A method according to claim 1 or 2, characterised in that it further comprises a step (50), prior to said placing step (40), of determining levels in said graph.
4. A method according to claim 1, 2 or 3, characterised in that said checking step (42) comprises a table-based analysis step.
5. A method according to any of the preceding claims, characterised in that said checking step (42) comprises a Petri net analysis step.
6. A vertex in a graph modelling a network, characterised in that it implements a method according to any of the preceding claims.
7. A server in a telecommunications network, characterised in that it is a source implementing a method according to any of claims 1 to 5.
8. A device for determining locations of service instances for optimising distribution of a service in a network, from a source to a plurality of clients each having predetermined requirements, wherein said network can be

modelled by means of a graph, said device being characterised in that it comprises:

lodging means (70), for hosting a service instance;

5 checking means (72), for checking whether the service instance when placed in a vertex on the next higher level can fulfil the requirements of all clients to be served by said service instance;

processing means (74), for coordinating said lodging means (70) and said checking means (72) and for controlling said vertex; and

10 input/output means (76), for sending and receiving messages and service instances.

9. A device according to claim 8, characterised in that it further comprises combining means (78), for determining that at least two service instances meet in said vertex and for combining said service instances.

15 10. A vertex in a graph modelling a network, characterised in that it comprises a device according to claim 8 or 9.